

REMARKS

Claims 1-2, 4-5, 7-13, 15-16 and 30-37 are pending in the present application.

Claims 1-2, 4-5, 7-13 and 15-16 were amended herein. The recitation of “suspended below” has been eliminated within the amendments herein.

Reconsideration of the claims is respectfully requested.

35 U.S.C. § 112, Second Paragraph (Definiteness)

Claims 1-2, 4-5, 7-13, 15-16 and 30-37 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention. This rejection is respectfully traversed.

The Office Action states:

Claims 1-2, 4-5, 7-13, 15-16 and 30-37 provides for a method of using a preformed filed [sic] in a transfer molding process, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Paper No. 20071209, pages 2-3. This rejection is vague and unclear for the reasons described below, and to the extent that Applicants’ amendment does not fully address the rejection, Applicants respectfully request a clear and unequivocal statement of the grounds of the rejection that may be addressed by Applicant before any final Office Action is issued.

At least claims 1, 4-5, 10-11, 12, 15, 31-32 and 34 each recited active, positive steps delimiting how the claimed methods are actually practiced: “pre-forming . . .,” “placing . . .,” and “holding . . .” in claim 1; “embossing . . .” and “stamping . . .” in claims 4, 10 and 15; “placing . . .,” “filling . . .,” “allowing . . .,” and “removing . . .” in claims 5, 11 and 16; “providing . . .,” “pre-forming . . .” and “placing . . .” in claim 7; “providing . . .,” “pre-forming . . .,” “placing . . .,” “providing . . .,” “pre-forming . . .,” “placing . . .,” and “holding . . .” in claim 12; “providing . . .,”

“pre-forming . . .” and “placing . . .” in claim 30; “cutting . . .,” in claims 31-32 and 35; and “pre-forming . . .,” “placing . . .,” “pre-forming . . .” and “placing . . .” in claim 34. Accordingly, the rejection may NOT properly be based on failure of the claims to recite active, positive steps delimiting how the claimed methods are actually practiced.

Accordingly, Applicants surmise that the rejection is intended be based on a perceived discrepancy between the preambles of the independent claims and the active, positive steps recited. That is, apparently the rejection is based on a purported failure of the recited steps to completely perform, without additional unrecited steps, the claimed “use in a transfer molding process of a type that uses a transfer mold to encapsulate portions of an integrated circuit within a molding compound” recited the preambles of claims 1 and 7 or the claimed “use in a transfer molding process of a type that uses a top half of a transfer mold and a bottom half of a transfer mold to encapsulate portions of an integrated circuit within a molding compound” recited in the preamble of claim 12. However, the preambles of each of independent claims 1, 7 and 12 further recite “a method for using a pre-formed film in said transfer molding process,” which is achieved by the active, positive steps recited within the bodies of those claims without the necessity of reciting all steps involved in the transfer molding process. Moreover, claims 5, 11 and 16 recite each recite active, positive steps delimiting how the claimed mold transfer processes are actually practiced: placing the transfer mold over an integrated circuit die; filling the mold cavity of the transfer mold with liquefied molding compound; allowing the molding compound to solidify; and removing the transfer mold from the integrated circuit die after the molding compound has solidified.

Nevertheless, the preambles of the independent claims have been amended to obviate what is believed to be the basis for this rejection.

Therefore, the rejection of claims 1-2, 4-5, 7-13, 15-16 and 30-37 were rejected under 35 U.S.C. § 112, second paragraph has been overcome.

35 U.S.C. § 101 (Utility)

Claims 1-2, 4-5, 7-13, 15-16 and 30-37 were rejected under 35 U.S.C. § 101 as failing to be directed to statutory subject matter. This rejection is respectfully traversed.

The Office Action states:

[T]he claimed rejection of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Rd.App. 1967) and *Clinical Products, Lts. V. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). Here, the instant independent claim 1, 7, and 12 merely recite placing a preformed film in a transfer mold, but none of the claims recite a positive step of using the film in a transfer molding process, i.e., there are no positive or active transfer molding steps recited in the claims.

Paper No. 20071209, page 3. This rejection is vague and unclear for the reasons described below, and to the extent that Applicants' amendment does not fully address the rejection, Applicants respectfully request a clear and unequivocal statement of the grounds of the rejection that may be addressed by Applicant before any final Office Action is issued.

The contention in the Office Action that "there are no positive or active transfer molding steps recited in the claims" is incorrect. As noted above, claims 5, 11 and 16 recite each recite active, positive steps delimiting how the claimed mold transfer processes are actually practiced: placing the transfer mold over an integrated circuit die; filling the mold cavity of the transfer mold with liquefied molding compound; allowing the molding compound to solidify; and removing the transfer mold from the integrated circuit die after the molding compound has solidified.

Nevertheless, the preambles of the independent claims and the bodies of claims 5, 11 and 16 have been amended to obviate what is believed to be the basis for this rejection.

Therefore, the rejection of claims 1-2, 4-5, 7-13, 15-16 and 30-37 were rejected under 35 U.S.C. § 101 has been overcome.

35 U.S.C. § 103 (Obviousness)

Claims 1-2, 4-5, 7-13, 15-16 and 30-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,226,997 to *Vallier* in view of U.S. Patent No. 5,846,477 to *Hotta et al* or U.S. Patent No. 6,652,799 to *Seng et al*. This rejection is respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-127 (8th ed. rev. 6 September 2007). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.*

To establish a *prima facie* case of obviousness, three basic criteria must be met: First, there must be some suggestion or motivation (i.e., reason), either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.*

Independent claims 1 and 12 each recite vacuum holding a pre-formed liner adjacent to a mold cavity surface of a transfer mold. The Office Action acknowledges that *Vallier* fails to disclose vacuum holding a pre-formed film of compliant material against a mold cavity surface of a transfer mold. Paper No. 20071209, page 4 (“The cited primary reference does not set forth the use of the liners in a transfer molding process or vacuum holding the liner.”). The Office Action asserts that *Hotta* or *Seng* discloses such features and that it would be obvious to modify *Vallier* with either of

those references. Paper No. 20071209, page 4.

The Office Action asserts that it would be obvious to modify *Vallier* with either *Hotta* or *Seng* because of the “notoriously well-known” nature of that feature:

[T]he suggestion to hold the liners of *Vallier* in the molds of *Vallier* by vacuum, as taught by *Hotta* or *Seng*, come from knowledge generally available to one of ordinary skill in the art. Vacuum holding of liners or performs in a mold is a notoriously well-known idea, as illustrated by *Hotta* or *Seng*, in order to perfect of maintain position of the film or perform during a molding step. See class 264, subclasses 511 and 513, which are devoted to holding, supporting, or sustaining a perform within a mold during a molding step. Also, it should be noted that the combination of the prior art elements, i.e., the preformed liners and vacuum holding of liners within a mold cavity, would have yielded the predictable result of ensuring the maintenance of the preformed liner position during the molding step.

Paper No. 20071209, page 6. To the extent that any portion of the above-quoted language (or any other portion of the Office Action) is a *sub silentio* taking of “official notice” of the benefits of using vacuum holding in connection with preformed films, Applicants respectfully traverse such purported official notice. Specifically, citation to a subclass cannot substitute for citation to specific prior art teachings, particularly since the subclass identified in the Office Action is not limited or even described as encompassing vacuum holding.

Moreover, the assertion that “[v]acuum holding of . . . performs” within molds is taught by *Hotta* and/or *Seng* is incorrect. *Hotta* uses suction to deform a non-preform film into the shape of the mold by “adsorb[ing the film] onto the surface of the inside” of a pot (i.e., “sucking a film into a mold”). *Hotta*, column 3, lines 38-47 and column 4, lines 22-39. *Seng* similarly uses vacuum to deform release film 38 – which are NOT pre-formed to the shape of the mold cavity prior to use – into the shape of the mold cavity. *Seng*, column 5, lines 19-24.

Moreover, absolutely nothing indicates that the preform assembly of *Vallier* needs to be held by a vacuum against the upper mold half 20 or against the lower mold half 25. Unlike the subject

matter of the present invention, in which the pre-formed compliant film must be retained against the mold cavity surface of the transfer mold while the transfer mold is lowered, cavity facing down, over the integrated circuit die, no issues of retaining the preform assembly of *Vallier* against the forces of gravity are apparent. A completely fictional need cannot properly reason to modify the teachings of the prior art or motivate the combination of teachings from different references.

Not only that, the modification proposed by the Office Action would require two different vacuum mechanisms to be provided in *Vallier*. The first vacuum mechanism would be needed to hold the preform assembly against one or both of the mold halves 20, 25 (which could not be accomplished by evacuation through the ports provided), while the second vacuum mechanism would be needed, as described in *Vallier*, to evacuate air from between the liners 12, 14. See *Vallier*, column 5, lines 14-20. This modification would therefore increase the cost and complexity of the molding apparatus of *Vallier*, without providing any apparent benefit as noted above.

Independent claim 7 recites pre-forming a plurality of portions of a tape to at least approximately conform a shape of a part of each portion to a mold cavity surface of a transfer mold. As previously noted, none of the cited references discloses, teaches, or suggests pre-forming multiple portions of a tape to at least approximately conform a shape of each portion to a mold cavity surface of a transfer mold. The Office Action makes absolutely no attempt to explain how claim 7 is rendered obvious by the cited references.

The Office Action states:

In regard to claims 7, 9-11, 30-32 and 34-35, applicant argues none of the references teach providing a plurality of portions of a tape made of a film of compliant material. This argument is misplaced because the reference sets forth the molding of the liners with peripheral portions 18 and 18', with sealing surface 16 and 16', which are indentations that are shaped into the liner during molding – such teachings are deemed readable on the claimed steps of embossing and stamping.

Paper No. 20071209, page 6. However, the claim does not relate to forming individual performs from separate starting “blanks,” but instead pre-forming various regions along a continuous tape with the required shape. Such a feature is not found in the cited references.

With respect to claims 33 and 36, the Office Action characterizes the following statement from a prior Office Action (Paper No. 20041015, pages 4-5) as taking “official notice” of the well-known nature of those materials:

With respect to the claimed silicone latex coated paper, not that such materials are conventional in the molding art, and the added reference discloses any suitable film for performing the mold releasing feature can be used, and such includes composite films of conventional material as claimed.

To the extent that such *sub silentio* taking of “official notice” is proper, Applicants respectfully traverse the official notice.

Therefore, the rejection of claims 1-2, 4-5, 7-13, 15-16 and 30-37 under 35 U.S.C. § 103 has been overcome.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *dvenglarik@munckcarter.com*.

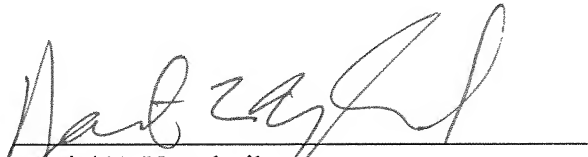
The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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